Integrated Resource Plan

TVA'S ENVIRONMENTAL AND ENERGY FUTURE

Stakeholder Review Group
Working Session

January 26, 2011
Knoxville, TN 2010

Agenda

10:00-10:15	Introduction	Randy McAdams
10:15-11:00	Updated Results from Ongoing Analysis	Gary Brinkworth
11:00-11:30	Open Discussion	
11:30-12:30	Lunch	
12:30-2:00	Preliminary Recommendations and Scorecards	Gary Brinkworth
2:15-3:15	Open Discussion	
3:00-3:15	Next Steps	Gary Brinkworth
3:15-3:30	Wrap-Up	Randy McAdams

Introduction

SRG Purpose

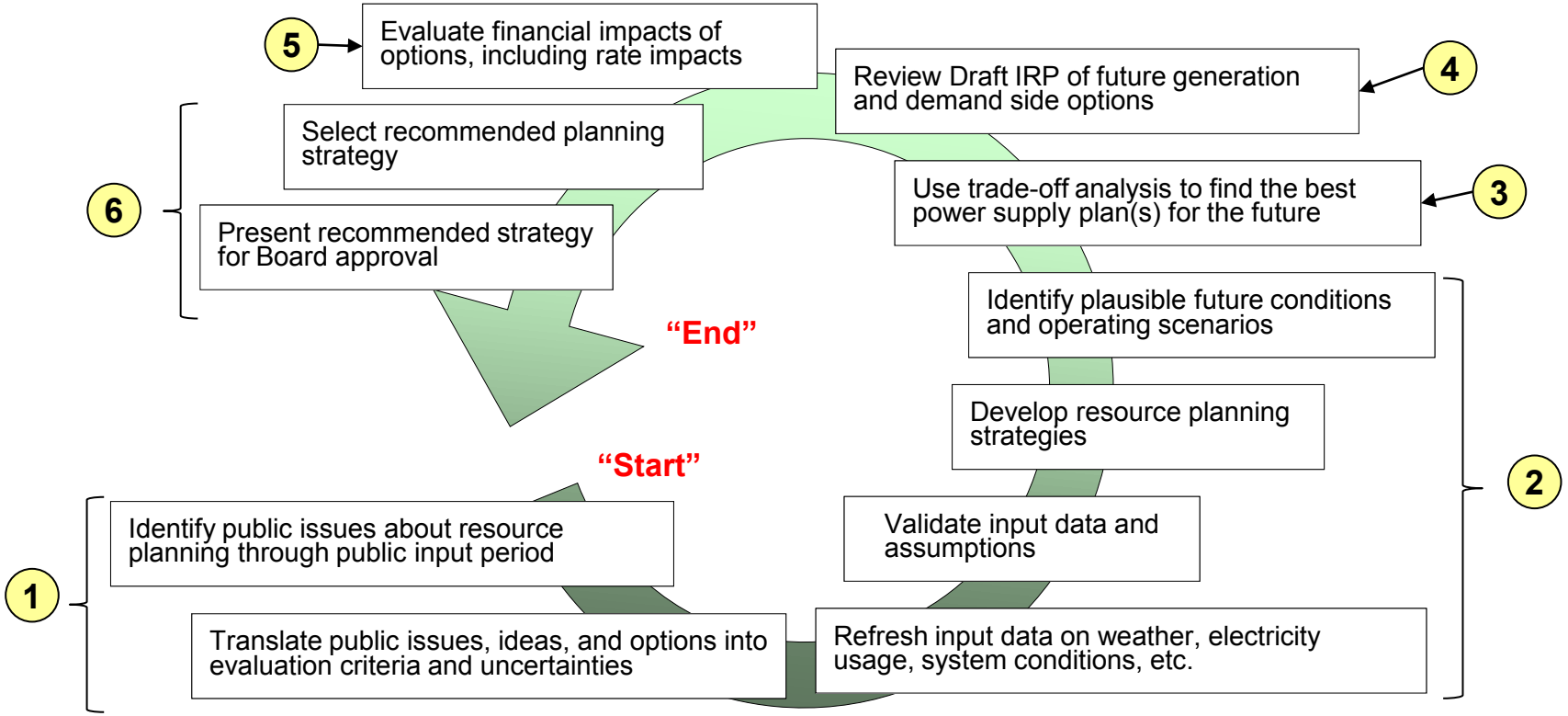
- Provide TVA with in-depth ongoing discussion and input from different stakeholder viewpoints
- Serve as a source of information, a coordination mechanism, and a professional review group
- Build efficiency into the study process by providing real-time public input to IRP issues and processes
- Validate the various steps in the IRP process

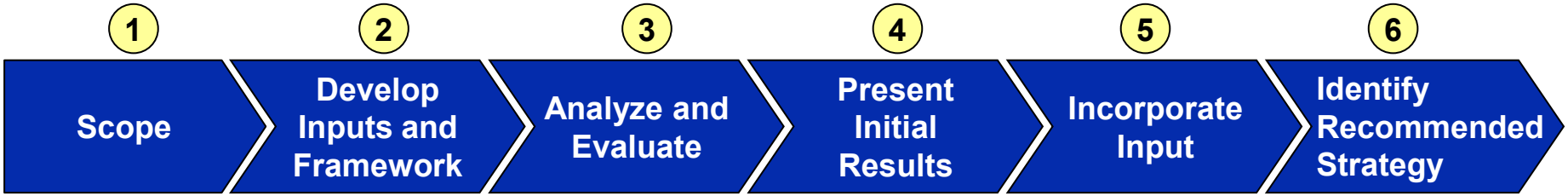
SRG Meeting Types

- *Working Sessions* – regular meetings that are not open to the general public
- *Workshops* – the SRG, by majority vote, can request TVA hold additional "workshops" to provide more in-depth information on specific topics to those members who are interested in attending
- *Public Comment Sessions* – by majority vote, the SRG may host a public comment session to receive input on specific topics

IRP Process Review

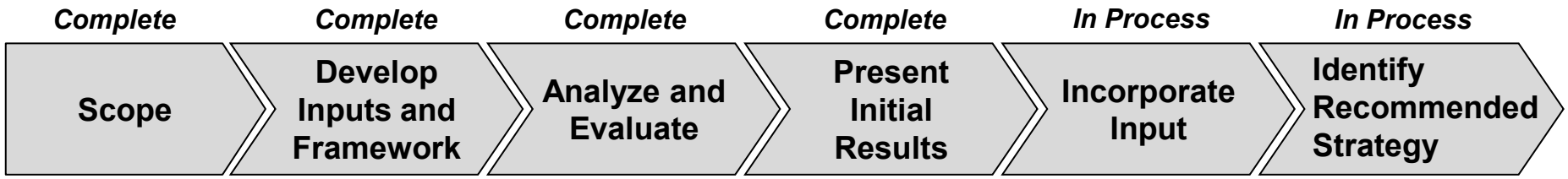
The IRP process that has been previously shared can be summarized into six high-level steps





IRP Process Review (Cont'd)

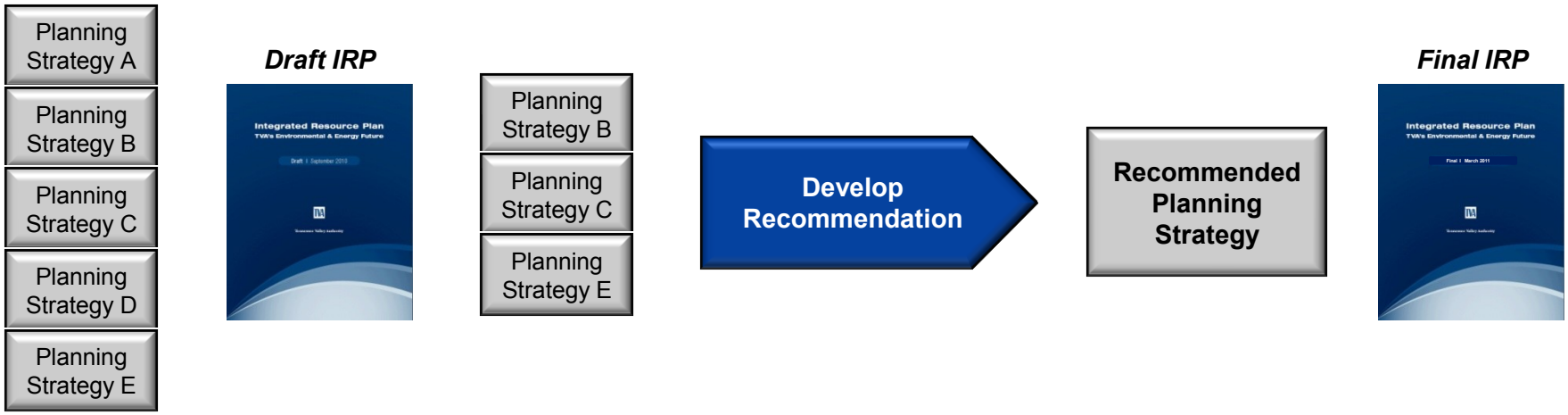
The SRG has reviewed and provided input on the following topics:



- Planning process
- Key uncertainties
- Updated scenario/worlds
- Demand-side resource options
- Supply-side resource options
- Busbar screening results for supply-side resource options
- Load forecast
- Environmental outlook
- Commodity price forecasts
- Financial parameters
- Energy efficiency and demand response
- Planning strategies
- IRP scorecard and evaluation metrics
- Preliminary model results

Complete or In Process
Not Started

Approach From Draft to Final IRP



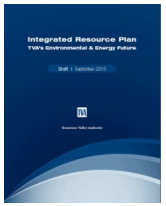
- Incorporate public comments and input
- Evaluate and optimize components of retained planning strategies through ongoing analysis
- Refresh and rescore the ranking and strategic metrics to evaluate new component combinations identified in analysis
- Identify recommended planning strategy through TVA leadership's evaluation of analysis results, stakeholder input, and other considerations
- Present recommendations and alternatives considered for Board approval

Expectations for the Final IRP

The Final IRP Will	The Final IRP Will Not
— Articulate a 20-year planning strategy	— Make specific asset decisions — Substitute for the “fine tuning” of annual planning
— Present a recommended planning strategy and alternatives considered	— Narrow the breadth of NEPA coverage established in the Draft IRP and EIS
— Describe guideline ranges for key components of the recommend planning strategy	— Make specific commitments for key components
— Present illustrative portfolios that show potential asset additions by year	— Commit to a specific 20-year capacity addition schedule
— Highlight key asset additions by showing a specific value within the guideline range	— Imply that any asset addition or in-service date shown represents a formal decision
— Discuss other strategic considerations	— Quantify and score all risks in the analysis
— Commit to beginning the next IRP no later than 2015	— Provide coverage for the same duration as the previous IRP

Analysis Approach to Develop a Recommended Strategy

- Components from the planning strategies retained in the Draft IRP establish the boundaries for optimization



Attributes	Range of Options Tested				
EE/DR	– 2,100 MW & 5,900 annual GWh reductions by 2020	– 3,600 MW & 11,400 annual GWh reductions by 2020	– 5,100 MW & 14,400 annual GWh reductions by 2020		
Renewable Additions[1]	– 1,500 MW competitive resources or PPAs by 2020	– 2,500 MW competitive resources or PPAs by 2029	– 2,500 MW competitive resources or PPAs by 2020	– 3,500 MW competitive resources or PPAs by 2029	– 3,500 MW competitive resources or PPAs by 2020
Fossil Capacity Idled	– 2,400 MW total fleet reductions by 2017	– 3,200 MW total fleet reductions by 2017	– 4,000 MW total fleet reductions by 2017	– 4,700 MW total fleet reductions by 2017	

- A proposed strategy is designed based on optimization results and ranking metrics scores
- Strategy components are selected from optimization cases that perform best across the scenarios tested

Ranking Metric Worksheet

	Idled Capacity	Scenarios			Total
		Sc 1	Sc 3	Sc 8	
Weighted Ranking	2,400				
	3,200				
	4,000				
	4,700				

- The proposed strategy is evaluated in all scenarios (cost and risk metrics are computed)

Scenario Matrix

	Scenarios							
	#1	#2	#3	#4	#5	#6	#7	#8
Optimized Strategy								

- These results are used to build a fully populated scorecard with ranking and strategic metrics
- The completed scorecard is compared with Draft IRP results to evaluate improvement over previously considered alternatives

Fully Populated Scorecard

	Ranking Metrics					Strategic Metrics				
	Energy Supply					Environmental Stewardship			Economic Impact	
Scenarios	Plan Cost	Short-Term Rate Impacts	Risk / Benefit	Risk Exposure	Total Plan Score	CO_2 Footprint	Water	Waste	Total Employment	Growth in Personal Income
1	99.43	99.21	97.82	96.78	98.58	◕	●	◕	0.8%	0.6%
2	100.00	99.22	99.79	100.00	99.80	◕	●	◕		
3	99.15	96.03	95.91	97.73	97.72	◕	◕	◕		
4	99.45	99.58	95.32	89.57	96.73	◑	●	◕		
5	99.83	99.50	98.87	99.47	99.56	◕	◕	◕		
6	99.16	95.61	100.00	100.00	98.64	●	◕	◕	0.3%	0.2%
Baseline	99.68	99.77	98.98	98.96	99.45	◕	◕	◕		
Total Ranking Metric Score					690.47					

Preliminary Outcome of Resource Optimization

- The following slide shows the resource addition schedules

- Abbreviations are summarized in the following table:

Unit Abbreviation	Name
BLN 1[1]	Bellefonte Nuclear Unit
CC	Combined Cycle Combustion Turbine (Natural Gas)
CT	Combustion Turbine (Natural Gas) ~800 MW
CTa	Combustion Turbine (Natural Gas) ~600 MW
GL CT Ref	Refurbishment of Combustion Turbine at Gleason
IGCC	Integrated Gasification Combined Cycle (Coal)
JSF CC	John Sevier Combined Cycle
NUC	Nuclear Unit AP1000
PPAs & Acqs	Purchased Power Agreements and Acquisitions
PSH	Pumped Storage Hydro
SCPC	Supercritical Pulverized Coal
WBN 2	Watts Bar Nuclear Unit 2

1 – The number denotes a specific unit number (i.e., BLN2 is a second unit)

Capacity Additions by Scenario

	Scenario 1 Capacity Additions				Scenario 8 Capacity Additions				Scenario 3 Capacity Additions			
Idled Capacity	**2,400**	**3,200**	**4,000**	**4,700**	**2,400**	**3,200**	**4,000**	**4,700**	**2,400**	**3,200**	**4,000**	**4,700**
Renewable Portfolio[1]	2,500	2,500	2,500	2,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
EEDR Portfolio[2]	5,074	5,074	5,074	5,074	3,627	3,627	5,074	5,074	3,627	3,627	3,627	3,627
2010	PPAs & Acqs	PPAs & Acqs	PPAs & Acqs	PPAs & Acqs								
2011												
2012	JSF CC	JSF CC	JSF CC	JSF CC	JSF CC	JSF CC	JSF CC	JSF CC	JSF CC	JSF CC	JSF CC	JSF CC
2013	WBN 2	WBN 2	WBN 2	WBN 2	WBN 2	WBN 2	WBN 2	WBN 2	WBN 2	WBN 2	WBN 2	WBN 2
2014												
2015	GL CT Ref PPAs & Acqs	GL CT Ref PPAs & Acqs	CC GL CT Ref PPAs & Acqs	CC (2) GL CT Ref PPAs & Acqs	GL CT Ref	GL CT Ref	GL CT Ref	CC GL CT Ref				CC
2016		CC	CTa	CTa								
2017	CC	CTa	CT	CTa								
2018	BLN 1	BLN 1	BLN 1	BLN 1								
2019												
2020	BLN 2 PSH	BLN 2 PSH	BLN 2 PSH	BLN 2 PSH	BLN 1 PSH	BLN 1 PSH	BLN 1 PSH	BLN 1 PSH	PSH	PSH	PSH	PSH
2021												
2022	CT CTa	CC CT	CC CT	CC CT	BLN 2	BLN 2	BLN 2	BLN 2				
2023	CT	CT	CTa	CT								
2024	NUC	NUC	NUC	NUC								
2025	IGCC		IGCC	IGCC								
2026	NUC	NUC	NUC	NUC		CTa						
2027	CT	CT	IGCC	IGCC								
2028	CT	CT	CT	CTa IGCC	CTa	CT	CTa	CTa				
2029	CC	CT IGCC	CT IGCC	CTa IGCC	CT	CT	CTa	CTa				

1 – Renewable portfolio values shown are in nameplate capacity. Net dependable values would be lower
2 – Selected portfolio is represented by demand reduction achieved (MW) by 2020

Financial Impacts

- The table to the right summarizes preliminary results for the following financial measures
  - PVRR: Present Value of Revenue Requirements
  - Short-Term Rate Impacts: total revenue derived from both Base and FCA per MWh of native sales
  - Risk / Benefit Ratio: the potential of exceeding the expected PVRR vs. the potential benefit of not exceeding
  - Risk ratio: the potential of exceeding the expected PVRR

- Preliminary observations:
  - Financial measures vary significantly across each of the scenarios
  - However, there is little variation between different levels of idled fossil capacity within a particular scenario

	Idled Capacity	Scenarios		
		Sc 1	Sc 3	Sc 8
PVRR (2010B$)	2,400	170.9	108.6	123.1
	3,200	172.4	108.0	123.1
	4,000	175.3	107.6	122.0
	4,700	177.6	108.2	122.5
Short-Term Rate Impacts $/MWh (level 2011-18)	2,400	82.24	74.00	76.79
	3,200	82.49	73.21	76.74
	4,000	82.85	72.55	76.56
	4,700	83.56	72.90	76.92
Risk / Benefit Ratio	2,400	1.41	0.88	1.07
	3,200	1.41	0.90	1.07
	4,000	1.39	0.94	1.08
	4,700	1.39	0.95	1.08
Risk Ratio	2,400	0.229	0.086	0.142
	3,200	0.232	0.091	0.143
	4,000	0.228	0.097	0.148
	4,700	0.227	0.100	0.149

Observations Developed from Preliminary Results

Component	Observations
Nuclear additions	◆ Nuclear expansion is present in the majority of portfolios ◆ Up to two units are added between 2018 and 2022 ◆ No additions are made in scenarios with nearly-flat load growth
Coal additions	◆ New coal capacity is only selected after 2025 in scenarios with dramatic load growth
Natural gas additions	◆ Expansion of natural gas is needed, but typically occurs after 2024 with simple-cycle combustion turbines ◆ The dramatic load growth scenario is an exception as combined cycles and combustion turbines are chosen as early as 2015 ◆ Additional units may be required for reliability and/or grid stability
Renewable additions	◆ Model results tend to favor the current wind contracts (1,500 MW) as the least cost plan ◆ The renewable portfolio that delivers 2,500 MW by 2029 is selected in the dramatic load growth scenario
EEDR	◆ Results evenly split in selecting either the 3,600 MW by 2020 portfolio and the 5,000 MW by 2020 portfolio

Analysis Approach to Develop a Recommended Strategy

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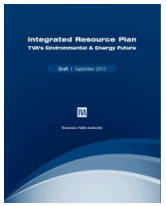

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6	99.16	95.61	100.00	100.00	98.64	●	◕	◕	0.3%	0.2%
Baseline	99.68	99.77	98.98	98.96	99.45	◕	◕	◕		
Total Ranking Metric Score					690.47					

Identifying Recommended Strategy Components

- Ranking metrics used in the Draft IRP were applied to select a level of idled coal capacity from the options considered
- Each idled capacity level was given an ordinal rank for each metric within a scenario (a rank of 1 the "best")
  - A summary of the ranking metric worksheet is shown to the right
- Rankings were weighted using the same criteria applied in the Draft IRP
  - 65% Cost (65% PVRR + 35% Short-term rates)
  - 35% Risk (35% Risk / Benefit + 65% Risk)
- Weighted ranking scores were summed for each idled capacity level to create total ranking scores
  - Results are summarized in the table to the right
- Based on the ranking results, 4,000 MW was chosen as the scorecard value
  - The guideline range would be 2,400 to 4,000 MW

Ranking Metric Worksheet

	Idled Capacity	Scenarios		
		Sc 1	Sc 3	Sc 8
PVRR	2,400	1	4	3
	3,200	2	2	4
	4,000	3	1	1
	4,700	4	3	2
Short-Term Rate Impacts	2,400	1	4	3
	3,200	2	3	2
	4,000	3	1	1
	4,700	4	2	4
Risk / Benefit Ratio	2,400	3	1	2
	3,200	4	2	1
	4,000	1	3	3
	4,700	2	4	4
Risk Ratio	2,400	3	1	1
	3,200	4	2	2
	4,000	2	3	3
	4,700	1	4	4

	Idled Capacity	Scenarios			Total
		Sc 1	Sc 3	Sc 8	
Weighted Ranking	2,400	1.7	3.0	2.4	**7.1**
	3,200	2.7	2.2	2.7	**7.7**
	4,000	2.5	1.7	1.7	**5.9**
	4,700	3.1	3.1	3.2	**9.4**

Identifying Recommended Strategy Components (Cont'd)

- Using the 4,000 MW idled coal capacity as a fixed assumption, model results were reviewed to identify trends for other key component choices

Component	Observations	Recommendation
Nuclear additions	◆ Nuclear expansion is present in the majority of the portfolios ◆ Results indicate that BLN 1 is selected between 2018 and 2020 ◆ Aligned with Vision statement to be a national leader in increased nuclear production	— Include a selection window for BLN 1 between 2018 and 2020
Coal additions	◆ New coal capacity is only selected in Scenario 1	— Allow selection after 2025
Natural gas additions	◆ The majority of gas additions are new gas-fired capacity is simple-cycle CT's added after 2025 ◆ Scenario 1 is an exception as CC's and CT's are chosen as early as 2015	— Allow gas capacity to be added throughout study period
Renewable additions	◆ Model results tend to favor the current wind contracts ◆ Significant feedback on Draft IRP from stakeholders asked for greater renewable additions ◆ The premium to include the 2,500MW portfolio over the existing wind contracts is 0.9% of the total plan cost	— Include the 2,500 MW by 2020 portfolio in the recommended strategy
EEDR	◆ Results evenly split in selecting either the SE leader portfolio (3,600MW by 2020) or the larger portfolio from Draft IRP (5,000MW by 2020) ◆ 3,600 MW by 2020 portfolio is consistent with Vision statement to be a Southeast leader in increased energy efficiency	— Include 3,600 MW and 11,400 GWh by 2020 portfolio in the recommended planning strategy

Recommended Planning Strategy

Component	Recommendations[1]	Guideline MW Range	Window of Time	Key Determinants
EEDR	◆ Expand contribution of EEDR in the portfolio	3,600-5,100 (11,400-14,400 GWh)	By 2020	— Success of partnership with diverse distributor group — Rate of customer adoption and demand for program offerings — Expansion of smart grid infrastructure
Renewable additions	◆ Capitalize on opportunities to make cost-effective renewable additions	1,500-2,500[2]	By 2029	— Timely build-out of transmission infrastructure to support out-of-Valley purchases — Development of economic in-Valley renewable options
Coal capacity idled	◆ Increase amount of coal capacity idled	2,400-4,000	By 2017	— Limits imposed by HAPs MACT in 2015 — Passage of federal climate change legislation and final decision on mercury and other particulates
Energy Storage	◆ Add pumped storage hydro to increase operational flexibility	850	2020-2024	— Operational challenges as generation mix changes
Nuclear additions	◆ Increase contribution of nuclear generation	1,140-3,660	2013-2022	— Licensing and permitting timeline — Availability of key design and construction staff
Coal additions	◆ Preserve option of generation with carbon capture	0-500	2025-2029	— Successful demonstration of carbon-capture and sequestration at scale
Natural gas additions	◆ Preserve the option for additional capacity	880-2,880[3]	2012-2029	— Cost and availability of natural gas supply — Grid stability requirements

1 – Recommendations based on bounded optimizations runs and sensitivities
2 – Values are nameplate capacity. Net dependable capacity would be lower
3 – Does not include refurbishment of Gleason combustion turbine

Recommended Planning Strategy and Illustrative Portfolios

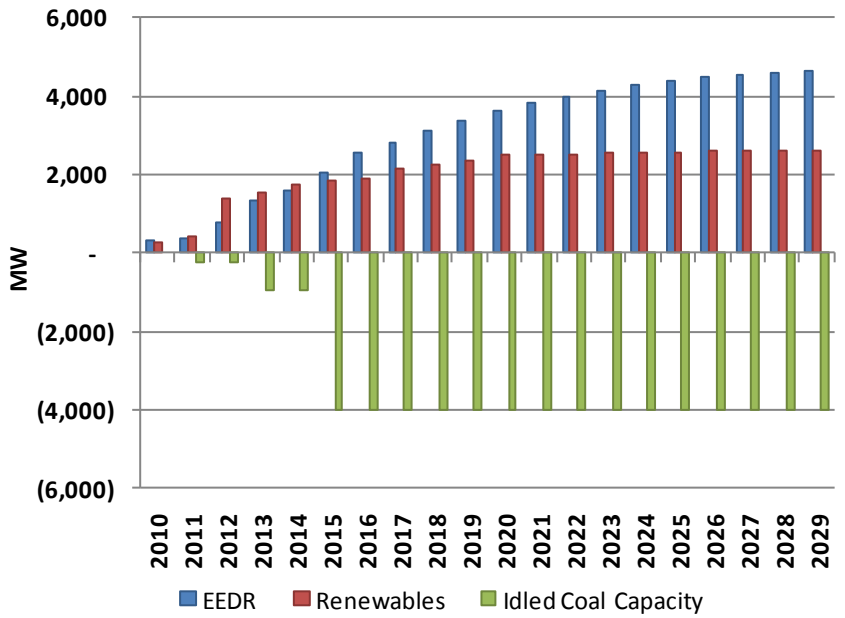
- Optimization analysis (nearly 3,000 cases) identifies scorecard values that are used to create illustrative portfolios
- Illustrative portfolios are required to:
  - Describe how the recommended strategy could be implemented
  - Build a complete scorecard
  - Calculate environmental impacts
- Illustrative portfolios are based on a particular set of assumptions and do not imply that any asset addition or in-service date shown represents a formal decision
- TVA's commitment to begin the next IRP process within 5 years, as well the annual planning processes, will allow for future refinement

Recommended Planning Strategy

Key Components	Guideline Range	Scorecard Value
Coal capacity idled	2,400-4,000 MW	4,000 MW
Renewable additions[1]	1,500-2,500 MW	2,500 MW
EEDR portfolio[2]	3,600-5,100 11,400-14,400 GWh	3,600 MW 11,400 GWh

1 – Values are nameplate capacity. Net dependable capacity would be lower
2 – Capacity and energy savings achieved by 2020

Change of Scorecard Values Over Time



Preliminary Illustrative Portfolios

- Illustrative portfolios are based on scorecard values selected from optimization analysis
  - Changes in scorecard values would produce different portfolios
  - EEDR and renewable additions are present in every year for all scenarios
- Near-Term Additions (0-5 years)
  - Illustrative portfolios are consistent in the near-term
  - Board-approved projects at JSF and WBN are added
  - Additional natural gas and purchased power may be required depending on load growth
- Long-Term Additions (5-15 years)
  - Nuclear expansion is present in almost every portfolio with first unit between 2018-2020
  - Expansion of new natural gas capacity typically occurs after 2024 except in high load growth scenarios

Preliminary Illustrative Portfolios

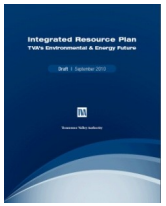
Year	Capacity Additions by Scenario									
	EEDR	Renew-ables	SC 1	SC 2	SC 3	SC 4	SC 5	SC 6	SC 7	SC 8
2010	300 MW	300 MW	PPAs							
2011										
2012			JSF CC	JSF CC	JSF CC	JSF CC	JSF CC	JSF CC	JSF CC	JSF CC
2013			WBN 2 PPAs	WBN 2	WBN 2	WBN 2	WBN 2	WBN 2	WBN 2	WBN 2
2014			CTa			CTa PPAs				
2015	2,100 MW	1,900 MW	CC CTa CT PPAs			CC PPAs	CTa PPAs		CTa PPAs	CTa PPAs
2016			CT			CTa				
2017										
2018			BLN 1	BLN 1		BLN 1			BLN 1	
2019										
2020			BLN 2 PSH	BLN 2 PSH	PSH	BLN 2 PSH	BLN 1 PSH	PSH	BLN 2 PSH	BLN 1 PSH
2021			CC							
2022			CC				BLN 2			BLN 2
2023			CT						CTa	
2024			NUC							
2025			IGCC						CTa	
2026			NUC							CTa
2027			CT						CT	
2028			CT				CTa			CT
2029	4,600 MW	2,600 MW	CT IGCC	CTa			CTa		CT	CTa

*Illustrative portfolios assume 4,000 MW of idled fossil capacity by 2015

Additions			
Natural Gas		Pumped Hydro	
Coal		Renewables	
Nuclear		EEDR	
Purchased Power			

Evaluating Results

- Components from the planning strategies retained in the Draft IRP establish the boundaries for optimization



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2	100.00	99.22	99.79	100.00	99.80	◕	●	◕		
3	99.15	96.03	95.91	97.73	97.72	◕	◕	◕		
4	99.45	99.58	95.32	89.57	96.73	◑	●	◕		
5	99.83	99.50	98.87	99.47	99.56	◕	◕	◕		
6	99.16	95.61	100.00	100.00	98.64	●	◕	◕	0.3%	0.2%
Baseline	99.68	99.77	98.98	98.96	99.45	◕	◕	◕		
					Total Ranking Metric Score	690.47				

Preliminary Scorecards

Former Planning Strategy C

	Ranking Metrics					Strategic Metrics				
	Energy Supply					Environmental Stewardship			Economic Impact	
Scenarios	PVRR	Short-Term Rate Impact	PVRR Risk/Benefit	PVRR Risk	Total Plan Score	CO_2 Footprint	Water	Waste	Total Employment	Growth in Personal Income
1	99.22	94.09	97.68	100.00	98.04	◑	◑	◑	0.9%	0.6%
2	96.35	100.00	96.46	95.85	97.08	◑	◕	◕		
3	95.56	94.68	100.00	100.00	96.91	◑	◑	◑		
4	97.39	98.37	98.19	100.00	98.30	◕	◑	◑		
5	98.90	100.00	97.49	99.17	99.04	◑	◑	◕		
6	95.03	94.41	97.83	93.22	94.82	◑	◑	◑	0.2%	0.1%
7	98.88	98.94	99.45	100.00	99.22	◑	◑	◑		
8	99.56	99.63	99.03	99.31	99.45	◑	◑	◕		
				Total Ranking Metric Score	782.87					

Former Planning Strategy E

	Ranking Metrics					Strategic Metrics				
	Energy Supply					Environmental Stewardship			Economic Impact	
Scenarios	PVRR	Short-Term Rate Impact	PVRR Risk/Benefit	PVRR Risk	Total Plan Score	CO_2 Footprint	Water	Waste	Total Employment	Growth in Personal Income
1	100.00	100.00	96.78	95.46	98.57	●	●	●	0.8%	0.6%
2	97.74	98.20	99.96	98.54	98.30	●	●	●		
3	94.67	93.55	95.91	97.73	95.26	●	●	●		
4	96.83	100.00	93.42	89.57	95.48	◑	●	●		
5	98.72	99.50	96.33	98.64	98.59	●	●	●		
6	95.62	93.91	99.65	100.00	96.72	●	●	●	0.3%	0.2%
7	98.56	100.00	98.42	98.96	98.96	●	●	●		
8	100.00	100.00	100.00	100.00	100.00	●	●	●		
				Total Ranking Metric Score	781.88					

Factors considered in developing the recommended strategy:

- ***Optimization analysis of components retained in the Draft IRP***
- ***Strategic values***
- ***Stakeholder input received***
- ***No regrets considerations***

Recommended Planning Strategy

Preliminary Scorecards (Cont'd)

Recommended Planning Strategy

	Ranking Metrics					Strategic Metrics				
	Energy Supply					Environmental Stewardship			Economic Impact	
Scenarios	PVRR	Short-Term Rate Impact	PVRR Risk/Benefit	PVRR Risk	Total Plan Score	CO_2 Footprint	Water	Waste	Total Employment	Growth in Personal Income
1	99.00	95.13	100.00	99.53	98.36	◕	◕	◕	0.9%	0.7%
2	100.00	95.58	99.40	95.30	97.85	◕	◑	◑		
3	100.00	100.00	99.81	89.37	97.56	◕	◕	◕		
4	100.00	97.40	100.00	95.37	98.36	●	◕	◕		
5	100.00	96.43	100.00	100.00	99.19	◕	◕	◑		
6	100.00	100.00	100.00	86.69	96.97	◕	◕	◕	0.2%	0.1%
7	100.00	97.24	100.00	97.03	98.70	◕	◕	◕		
8	99.84	96.66	98.35	97.93	98.50	◕	◕	◑		
Total Ranking Metric Score					785.49					

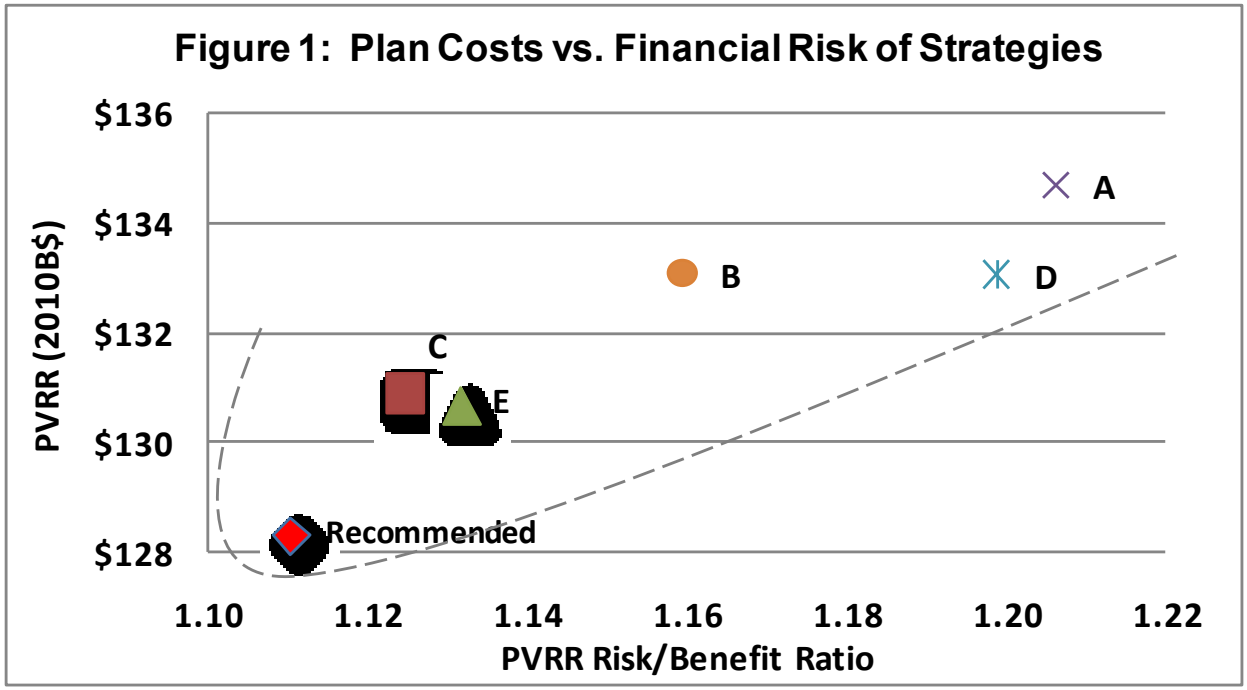
- The recommended planning strategy represents the most favorable blending of portfolio components presented in the Draft IRP

- The performance of the recommended strategy across all scenarios implies that it is a more robust strategy with lower likelihood of regret

Plan Cost Comparisons

- The preliminary recommended planning strategy balances trade-offs between cost and risk

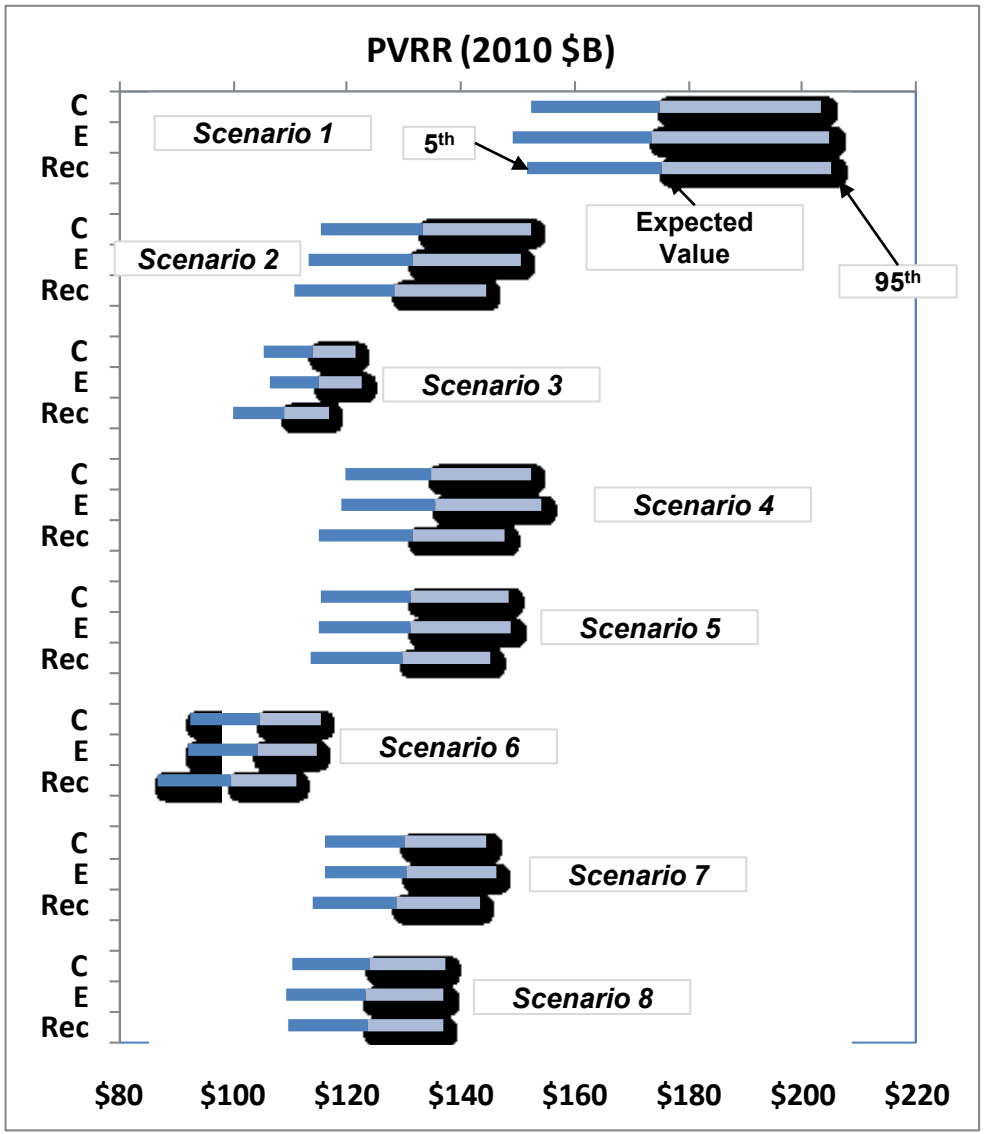
- Figure 1 compares total plans cost with financial risk
  - The recommended strategy has the lowest total cost
  - It also has the lowest risk benefit ratio (financial risk is lower relative to potential benefit)



The preliminary recommended strategy represents the most favorable blending of portfolio components

Financial Impacts

- The tornado diagram to the right illustrates the range of results from the 72 stochastic runs
  - The 5th percentile is the left edge of the bar
  - The expected value is at the color transition on the bar
  - The 95th percentile is the right edge of the bar
- The width of the bars indicate the uncertainty around the expected value
  - The 5th and 95th percentile values are used in addition to the expected value to calculate the risk ratios
  - Wider bars are riskier



Financial Impacts (Cont'd)

- The following table summarizes the ranking metrics worksheet

	Planning Strategies	Scenarios							
		Sc 1	Sc 2	Sc 3	Sc 4	Sc 5	Sc 6	Sc 7	Sc 8
PVRR (2010B$)	B	179.0	135.9	114.5	137.1	133.3	106.9	132.6	125.4
	C	175.0	133.3	114.0	134.9	131.2	104.8	130.1	124.0
	E	173.7	131.5	115.0	135.7	131.5	104.2	130.5	123.5
	Recommended	175.4	128.6	109.2	131.5	129.8	99.9	128.6	123.7
Short-Term Rate Impacts $/MWh (level 2011-18)	B	82.49	77.49	76.22	75.88	77.04	74.91	75.72	77.16
	C	83.57	74.60	77.40	76.00	75.64	75.55	75.94	74.65
	E	78.91	75.94	78.23	74.78	76.01	75.90	75.14	74.37
	Recommended	82.75	77.89	73.49	76.72	78.33	71.54	77.21	76.85
Risk / Benefit Ratio	B	1.43	1.24	0.97	1.16	1.18	1.00	1.18	1.11
	C	1.41	1.29	0.88	1.14	1.16	0.90	1.14	1.06
	E	1.42	1.24	0.92	1.19	1.18	0.89	1.15	1.05
	Recommended	1.38	1.25	0.89	1.12	1.14	0.90	1.13	1.07
Risk Ratio	B	0.232	0.193	0.096	0.163	0.167	0.138	0.159	0.148
	C	0.226	0.201	0.086	0.154	0.165	0.126	0.150	0.141
	E	0.236	0.196	0.089	0.170	0.166	0.119	0.152	0.140
	Recommended	0.227	0.202	0.092	0.161	0.164	0.128	0.155	0.143

Integrated Resource Plan Evaluation Factors

Stakeholder Input

- Public scoping period
- Stakeholder Review Group
- Public comment period
- Quarterly briefings
- Surveys

Analysis and Strategic Values

- Resource optimization and financial analysis
- Ranking metrics
- Strategic metrics

	Ranking Metrics					Strategic Metrics				
	Energy Supply					Environmental Stewardship			Economic Impact	
Scenarios	PVRR	Short-Term Rate Impact	PVRR Risk/Benefit	PVRR Risk	Total Plan Score	CO_2 Footprint	Water	Waste	Total Employment	Growth in Personal Income
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2	100.00	95.58	99.40	95.30	97.85	◕	◑	◑		
3	100.00	100.00	99.81	89.37	97.56	◕	◕	◕		
4	100.00	97.40	100.00	95.37	98.36	●	◕	◕		
5	100.00	96.43	100.00	100.00	99.19	◕	◕	◑		
6	100.00	100.00	100.00	86.69	96.97	◕	◕	◕	0.2%	0.1%
7	100.00	97.24	100.00	97.03	98.70	◕	◕	◕		
8	99.84	96.66	98.35	97.93	98.50	◕	◕	◑		
					Total Ranking Metric Score	785.49				

No Regrets Consideration

- Represent broader considerations not fully captured in the analysis
- Addressed in narrative form within the IRP document
- No attempt is made to resolve all associated implications

TVA Leadership

Integrated Resource Plan

High-Level IRP Project Schedule and Next Steps